



ASSESSMENT OF THE CLINICAL PROFILE OF PATIENTS PRESENTING WITH UVEITIS AT A TERTIARY CARE CENTRE

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ABSTRACT

PURPOSE: The aim of this study was to assess the anatomic, demographic, etiologic and clinical profile of patients presenting with uveitis at a tertiary care hospital. It was an observational study done with the aim of determining gender predilection and age group vulnerability of uveitis along with the types of uveitis and comparing infectious and non-infectious causes.

RESULTS: 36 patients of all age groups with uveitis were included in the study. Systemic and ocular examination was done, relevant investigations were performed. Mean age of patients studied was 34.92 ± 9.6 years with female predominance. Most common symptoms were ocular pain, redness followed by photophobia with 38.89% patients having recurrent symptoms. Most common type of uveitis was anterior uveitis followed by intermediate uveitis and posterior uveitis. Majority of patients had bilateral involvement. Some of the patients had associated co-morbidities like rheumatoid arthritis, diabetes, hypertension etc.

CONCLUSION: Identifying the cause of uveitis is required for appropriate treatment. Hence a multidisciplinary approach to the diagnosis and management of patients with uveitis between the ophthalmologist and a team of specialists in other areas of medicine is the need of the hour.

KEYWORDS: Uveitis, Ocular Pain, Redness, Demography

INTRODUCTION

Uveitis is the inflammation affecting one or more of the three parts of the eye which includes Uvea: Iris, Ciliary Body and Choroid. Uveitis is broadly classified into Anterior, Intermediate, Posterior and Pan Uveitis based on the anatomical involvement of the eye. Uveitis can also involve adjacent structures like Sclera, Cornea, Retina, Vasculature and Optic nerve head.

Uveitis includes a large spectrum of inflammatory diseases that can occur either as a co-manifestation of a non-infectious/autoimmune disorder, infection, malignancy or as a side effect of medications and toxins, or as an idiopathic ocular inflammation. Worldwide this disease is a sight threatening condition causing either transient or permanent visual impairment and ocular complications that may or may not respond to therapy. A delay in diagnosis and referral increases the risk that uveitis will result in irreversible damage to various ocular structures.¹

The aim of this study was to assess the anatomic, demographic, etiologic and clinical profile of patients presenting with uveitis at a tertiary care hospital.

It was an observational study done with the aim of determining the following:

- Gender predilection of uveitis
- Age group vulnerability to uveitis
- Laterality of the disease
- Commonest type of uveitis
- Causes of uveitis

MATERIALS AND METHODS

This was a prospective observational study conducted in the department of Ophthalmology. The diagnosis of uveitis was based on detailed clinical history, ophthalmological examination, general physical examination and laboratory tests wherever required.

Inclusion Criteria:

1. Patients who were willing to participate in the study & ready to give informed consent and willing to follow up as advised.

2. All age groups

Exclusion Criteria:

1. Patients who didn't undergo complete investigation profile.
2. Uveitis developing post operatively
3. Uveitis associated with penetrating ocular injuries, corneal ulcer, intraocular surgeries and masquerade syndrome.
4. Endophthalmitis
5. Sympathetic ophthalmia cases

Ocular examination included:

- Visual acuity by Snellen's Chart
- Slit lamp examination
- Fundus examination with 90D lens and Indirect

ophthalmoscopy after full dilatation.

- Intra ocular pressure.
- B Scan wherever required

The laboratory investigations included:

- Complete blood count.
- Erythrocyte sedimentation rate.
- Complete urine examination, urine culture and sensitivity.
- Random blood sugar
- Chest, X-ray
- VDRL
- Mantoux skin test.
- ELISA for HIV IgG and IgM
- Anti-Nuclear Anti-Bodies
- RA factor
- X-Ray of Sacroiliac joint

Statistical Analysis

The presentation of the Categorical variables was done in the form of number and percentage(%). On the other hand, the quantitative data were presented as the means \pm SD and as median with 25th and 75th percentiles (interquartile range).

The data entry was done in the Microsoft EXCEL spreadsheet and the final analysis was done with the use of Statistical Package for Social Sciences (SPSS) software, IBM manufacturer, Chicago, USA, ver 25.0.

RESULTS AND DISCUSSION

The study was conducted in the Department of Ophthalmology. 36 patients of all age groups with uveitis were included in the study. Systemic and ocular examination was done, relevant investigations were performed. 20(55.56%) patients were females and 16(44.44%) patients were males. In majority [24(66.67%)] of patients, both eyes were involved.

Age-wise distribution of patients is shown in table 1

| Age(years) | Frequency | Percentage |
|-------------------------------|-----------------|------------|
| 19-30 | 12 | 33.33% |
| 31-40 | 17 | 47.22% |
| 41-50 | 4 | 11.11% |
| >50 | 3 | 8.33% |
| Mean \pm SD | 34.92 \pm 9.6 | |
| Median (25th-75th percentile) | 34(28.75-39.25) | |
| Range | 19-62 | |

17(47.22%) patients belonged to age group 31-40 years followed by 19-30 years [12(33.33%)] and 41- 50 years [4(11.11%)]. Age group was >50 years of only 3 out of 36 patients (8.33%). Mean value of age(years) of study subjects was 34.92 \pm 9.6 with median(25th-75th percentile) of 34(28.75-39.25).

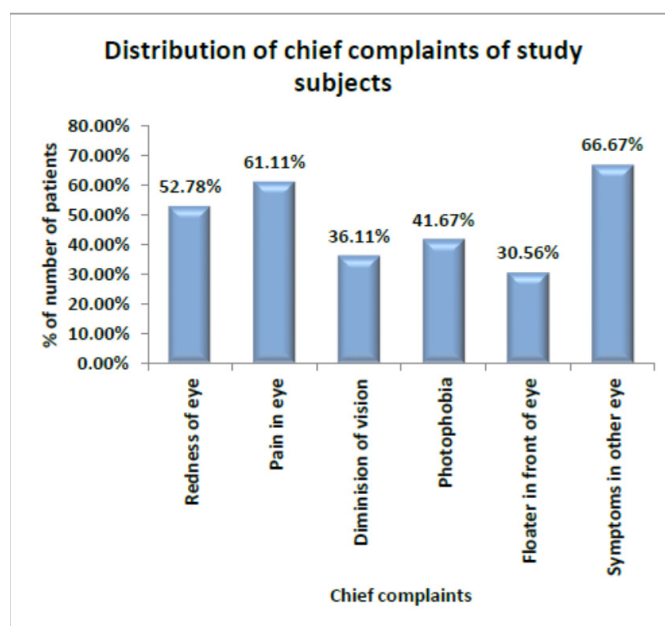


Figure 1:-Distribution of chief complaints of study subjects.

As shown in figure 1, majority [24(66.67%)] of patients had symptoms in other eye followed by pain in eye in 22(61.11%), redness of eye in 19(52.78%), photophobia in 15(41.67%) and diminution of vision in 13(36.11%). Floaters in front of eye was present in only 11 out of 36 patients (30.56%). Past history of similar complaints was present in only 14 out of 36 patients (38.89%).

In 8(22.22%) patients, rheumatoid arthritis was present followed by hypertension in 6(16.67%), diabetes mellitus in 3(8.33%) and respiratory illness in 3(8.33%), cardiac illness in 2(5.56%), HIV in 2(5.56%), hepatitis in 1(2.78%).

27(75%) patients did not have past and present history of tuberculosis. 4(2.78%) patients had past history of tuberculosis and 5(13.89%) had active tuberculosis. Out of 5 patients of tuberculosis, 3(60%) had pulmonary tuberculosis and 2(40%) had extra pulmonary tuberculosis. Out of 5 patients of tuberculosis, 3(60%) patients were on anti-tuberculosis therapy and 2(40%) were not on anti-tuberculosis therapy. Mantoux test was positive in only 8 out of 36 patients (22.22%). In majority [33(91.67%)] of patients, sputum for Acid-Fast Bacilli was

negative. Sputum for Acid-Fast Bacilli was positive in only 3 out of 36 patients (8.33%).

Rheumatoid Arthritis was present in 6 out of 36 patients (16.67%).

In majority [25(69.44%)] of patients, intraocular pressure was <20 followed by 30-40 in 7(19.44%) patients. Intraocular pressure was 29-30 in only 4 out of 36 patients (11.11%). In majority [25(69.44%)] of patients, gonioscopy findings was open angles followed by closed angles in 6(16.67%). Gonioscopy findings was occludable open in only 5 out of 36 patients (13.89%). Only 9 out of 36 patients (25.71%) were on anti glaucoma drugs.

| Slit lam finding: unilateral uveitic eye | Frequency | Percentage |
|--|-----------|------------|
| AC cells | 12 | 33.33% |
| AC flare | 8 | 22.22% |
| Keratic precipitates | 10 | 27.78% |
| Posterior synechiae | 5 | 13.89% |
| Hypopyon | 3 | 8.33% |
| Vitreous cells | 8 | 22.22% |

Table 2: Distribution of slit lamp findings: in unilateral uveitic subjects

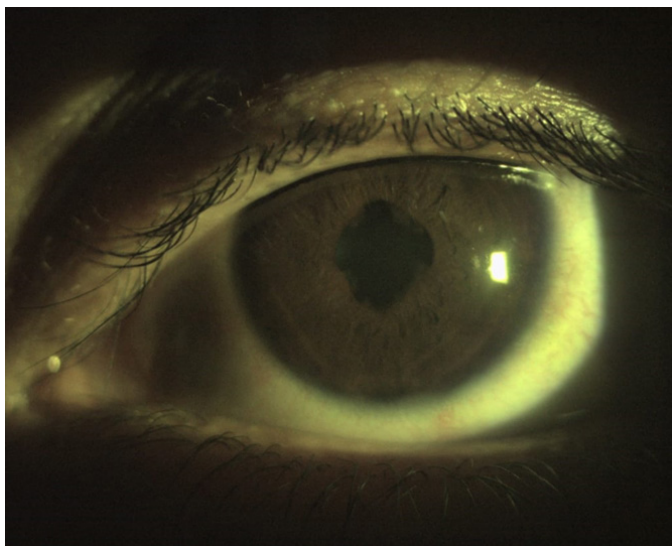


Figure 2: AC flare and posterior synechiae

In unilateral uveitic patients, slit lamp findings included AC cells in majority [12(33.33%)] followed by Keratic precipitates in 10(27.78%) patients, AC flare in 8(22.22%) patients, vitreous cells in 8(22.22%) patients, posterior synechiae in 5(13.89%) patients as seen in figure 2. Hypopyon was present in only 3 out of 36 patients (8.33%). On indirect ophthalmoscopy 5(13.89%) patients retinal vasculitis followed by snowballing and snowbanking in 4(11.11%) patients, chorioretinitis in 4(11.11%) patients and choroiditis in 3(8.33%) patients.

| Slit lam finding: unilateral uveitic eye | Frequency | Percentage |
|--|-----------|------------|
| AC cells | 20 | 55.56% |

| | | |
|----------------------|----|--------|
| AC flare | 19 | 52.78% |
| Keratic precipitates | 11 | 30.56% |
| Posterior synechiae | 13 | 36.11% |
| Hypopyon | 4 | 11.11% |
| Vitreous cells | 9 | 25.00% |

Table 3: Distribution of slit lamp findings: in bilateral uveitic eyes

In bilateral uveitic patients, majority [20(55.56%)] of patients had AC cells followed by AC flare in 19(52.78%) patients, posterior synechiae in 13(36.11%) patients, keratic precipitates in 11(30.56%) patients and vitreous cells in 9(25.00%) patients. On indirect ophthalmoscopy findings 5(13.89%) patients had snowballing and choroiditis each followed by snowbanking in 4(11.11%) patients, retinitis in 4(11.11%) patients and chorioretinitis in 3(8.33%) patients.

B scan was done in only 3 out of 36 patients (8.33%). B scan findings was suggestive of vitritis in only 1 out of those 3 patients (33.33%).

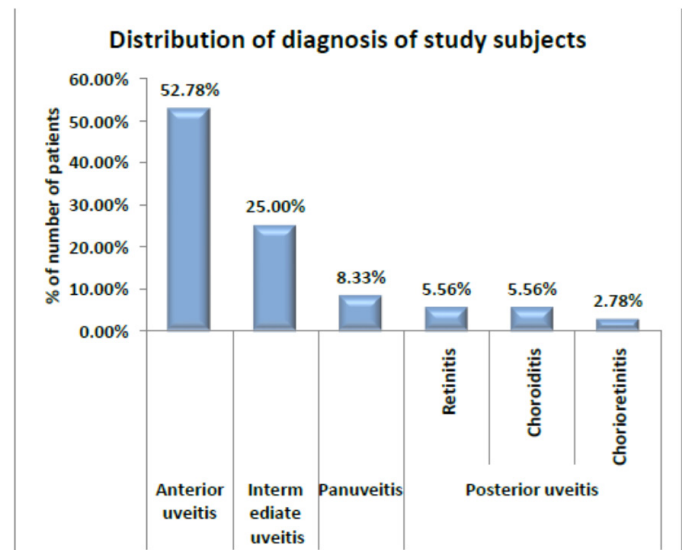


Figure 3: Distribution of diagnosis of study subjects.

In majority [19(52.78%)] of patients, diagnosis was anterior uveitis followed by intermediate uveitis in 9(25.00%) and posterior uveitis in 5(13.89%). Diagnosis was panuveitis in only 3 out of 36 patients (8.33%). Out of 5 patients of posterior uveitis, 2(5.56%) of patients had Retinitis and Choroiditis each and 1(2.78%) of patient had Chorioretinitis.

ELISA for HIV was reactive in only 2 out of 36 patients (5.56%). VDRL was reactive in only 2 out of 36 patients (5.56%). In majority [28(77.78%)] of patients, X-Ray chest was normal followed by fibrotic changes in 5(13.89%). X-Ray chest finding was consolidation in only 3 out of 36 patients (8.33%). RA factor was abnormal in only 10 out of 36 patients (27.78%).

DISCUSSION

Uveitis is currently reported to be the third leading cause of blindness worldwide. It currently accounts for 10% of preventable vision loss in the United States and 15% worldwide.

A large series from south India reported their experience over 6 years and compared it to reports from around the world. In their hospital based data, uveitis was seen in 0.8% of the patients.² The common confirmed etiological diagnoses among infectious causes were leptospirosis, tuberculosis and herpes related disease in adults and parasitic uveitis in children.

In our study, average age of study subjects was 34.92 ± 9.6 years with median (25th-75th percentile) of 34(28.75-39.25). In a study done by Majumder et al³, mean age of patients studied was 42.8 ± 9.2 years which is slightly higher than mean age in our study. In another study done by Ganesh et al⁴ the mean age of patients studied was 38 ± 16.8 years and in a study done by Brydak-Godowska et al⁵, mean age of patients studied was 38.3 ± 15.3 years which is almost like the mean age in our study.

In our study, 55.56% patients were females and remaining 44.44% patients were males, showing female predominance. Study done by Majumder et al³, shows that there were 88.5% patients were male showing male predominance which is contradictory to outcome of our study. Study done by Ganesh et al⁴ showed that there were 53.84% females and 46.16% were males with slight female predominance, which is similar to outcome of our study. Study done by Brydak-Godowska et al⁵ showed that there were 61.6% females and 38.4% were males with female predominance, which is similar to outcome of our study.

Considering symptomatology, in our study 61.11% patients had pain as a symptom followed by redness of eye seen in 52.78% patients. Photophobia was seen in 41.67% patients and diminution of vision 36.11%. History of floaters was present in 30.56% patients. Most patients (66.67%) also had symptoms in the contralateral eye. Study done by Patnaik et al⁶ showed that the most common presenting symptom was redness in 92.6% patients and ocular pain in 69.1% patients and watering of eyes in 2.45% patients. Also, past history of similar complaints was present in only 38.89% patients.

Considering systemic history, in our study 22.22% patients had rheumatoid arthritis followed by hypertension in 16.67% patients. Diabetes mellitus was seen in 8.33% patients, respiratory illness in 8.33% and cardiac illness seen in 5.56% patients. ELISA for HIV was reactive in only 2 out of 36 patients contributing about 5.56% patients. VDRL was reactive in only 5.56% patients. In the study done by Patnaik et al⁶, about 22% patients had some systemic association and rheumatoid arthritis was seen in 5% patients. Study done by Brydak-Godowska et al⁵, showed that about 16.8% patients had some systemic association and rheumatoid arthritis was seen in 4.8% patients.

In our study, RA factor was abnormal in only 27.78% patients. In the study done by Patnaik et al⁶ RA factor was abnormal in only 20.2% patients, which is slightly less than outcome of our study.

Etiology wise, specific causes of uveitis included toxoplasmosis (17.9%), Fuchs uveitis (12.2%), white dot syndromes (10.4%), sarcoidosis (6.1%), toxocariasis (6.1%), HLA-B27-associated

acute anterior uveitis (AAU) (5.7%), multiple sclerosis (4.7%), ankylosing spondylitis (3.6%) and herpesvirus infection (2.5%).

In our study 2.78% patients had past history of tuberculosis and 13.89% had active tuberculosis during the course of the study. In the study done by Patnaik et al⁶, showed that tuberculosis was present in only 11.8 % patients. Review of previously published studies has shown that tuberculosis is one of the most common causes of uveitis in Europe, predominantly in the Netherlands, UK, and Spain as per demonstrated in a study done by Jones et al⁷ and Llorenç V et al.⁸

Unilateral uveitic patients showed presence of AC cells on slit lamp examination in 33.33% of patients and keratic precipitates in 27.78%, AC flare was seen in 22.22% patients, vitreous cells seen in 22.22%, posterior synechiae seen in 13.89% while hypopyon was seen in only 3 out of 36 patients contributing about 8.33% patients. 55.56% bilateral uveitic patients showed AC cells on slit lamp examination followed by AC flare in 52.78% patients, posterior synechiae seen in 36.11% patients, keratic precipitates seen in 30.56% patients and vitreous cells seen in 25% patients.

On fundus examination (indirect ophthalmoscopy) of patients with unilateral uveitis, 13.89% patients had retinal vasculitis followed by snowballing and snowbanking in 11.11% patients, chorioretinitis in 11.11% patients and choroiditis in 8.33% patients. In bilateral uveitic eyes snowballing, snowbanking and choroiditis each was seen in 11.11% patients, retinitis in 11.11% and chorioretinitis in 8.33% patients. B scan was done in only 3 out of 36 patients contributing about 8.33% patients out of which only 1 patient had findings suggestive of vitritis.

In our study 52.78% of patients had anterior uveitis followed by intermediate uveitis seen in 25% and posterior uveitis seen in 13.89% patients. Out of 5 patients of posterior uveitis, about 5.56% of patients had retinitis and choroiditis each and remaining 2.78% of patients had Chorioretinitis. Panuveitis was seen in only 3 out of 36 patients contributing about 8.33% patients. In the study done by Ganesh et al⁴, about 53.84% of patients had anterior uveitis followed by intermediate uveitis in 23.07% patients and posterior uveitis in 7.69% patients. Diagnosis was panuveitis in only 15.38% patients. Study done by Brydak-Godowska et al⁵, showed that in about 26.5% of patients, diagnosis was anterior uveitis followed by intermediate uveitis in 12.9% patients and posterior uveitis in 60.6% patients.

During the 41 years covered by the literature review in Europe (1976–2017), the most common anatomical localization of uveitis reported was anterior, with the mean rate from all studies being 55.2%, ranging from 0.0% in Belgium (in 1999) to 92.2% in Finland (in 1994) as per demonstrated in a study done by Levecq et al.⁹

In our study, in majority 66.67% of uveitis patients there was bilateral involvement. In the study done by Ganesh et al⁴, there was bilateral involvement in 61.53% patients. Study done by Majumder et al³, shows that majority of patients about 80.7%

had unilateral involvement; study done by Patnaik et al⁶, showed bilateral involvement in 14% patients which is contradictory to outcome of our study. Study done by Brydak-Godowska et al⁵, showed that majority of patients about 60.5% had unilateral involvement and 39.5% had bilateral involvement which is contradictory to outcome of our study.

CONCLUSION

In our study, mean age of patients studied was 34.92 ± 9.6 years with female predominance. Most common symptoms were ocular pain, redness followed by photophobia with 38.89% patients having recurrent symptoms. Some of the patients had associated co-morbidities like rheumatoid arthritis, diabetes, hypertension etc.

38.89% patients had past history of similar complaints. 2.78% patients had past history of tuberculosis and 13.89% patients had present history of tuberculosis. Intraocular pressure was raised in about 33.33% patients. It is important to recognize tuberculosis as a cause of uveitis especially in the Indian subcontinent where it is more prevalent as compared to the west. Most common type of uveitis was anterior uveitis followed by intermediate uveitis and posterior uveitis. Majority of patients had bilateral involvement.

There may also be differences between other countries in the ability to recognize and diagnose uveitis, which results from differences in medical education, medical staff experience, the level of health care, and the availability of diagnostic investigations. Because identifying the cause of uveitis is required for appropriate treatment, a multidisciplinary approach to the diagnosis and management of patients with uveitis requires collaboration between the ophthalmologist and a team of specialists in other areas of medicine.

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